

## A. The Examiner's Objections

With regard to the objection to the phosphor formula  $(RE_{1-x}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$ , an amendment has been made to the claims and specification to substitute the correct formula, as recognized by the Examiner, of  $(RE_{1-x-y}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$ .

Similarly, with regard to the objection to the formula  $(Ca_{1-x-y-z}Sr_xBa_yCe_z)_3(Sc_{1-a-d}Lu_aD_c)_2Si_{n-w}Ge_wO_{12+\delta}$ , amendments have been made to substitute the correct formula  $(Ca_{1-x-y-z}Sr_xBa_yCe_z)_3(Sc_{1-a-c}Lu_aD_c)_2Si_{n-w}Ge_wO_{12+\delta}$  in the claims and specification.

With regard to the Examiner objection to the specification as failing to provide antecedent basis for the claimed subject matter with respect to claims 13, 14, 16, 24, 27-35, 38, 40-45, 47, 53, 54, 56-59, 70 and 72, Applicants are somewhat puzzled by this rejection. This almost sounds like a rejection based on lack of written description under §112, but the Examiner has phrased it as an objection to the claims. Nevertheless, in an effort to provide a response to the Examiner, Applicants submit the following. First, it is well recognized that claims original to an application can serve as their own disclosure and written description and therefore antecedent basis in the specification is not needed. In addition, however, the claimed limitations are described in the specification as follows.

With regard to claim 16 reciting an LED emitting radiation in the range of from 350-550 nm, applicants recite an LED emitting from 250-550 and more preferably from 400-500 nm on page 7, lines 10-13. The 350-550 nm range is a preferred range that falls within this broader disclosure.

With regard to claim 24, reciting a blend of two phosphors of the formula  $(RE_{1-x-y}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$ , one embodiment of the invention is described on page 16, lines 1-4, including a blend of  $(RE_{1-x-y}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$  and  $(Tb_{1-x-y-z-w}Y_xGd_yLu_zCe_w)_3M_rAl_{s-r}O_{12+\delta}$  and optionally, "one or more additional phosphors", which of course may include another phosphor having the same general formula.

With regard to claim 27, reciting the additional use of  $(Tb,Y)_3Al_{4.9}O_{12-\delta}:Ce^{3+}$  (TAG) in the apparatus, a preferred embodiment of the invention includes TAG phosphor, as recited on page 16, lines 5-9.

With regard to claims 28-33, these limitations are recited on page 11, lines 30 to page 12, line 5.

With regard to claims 34, 35 and 70, the recited CCT and CRI values are discussed on page 19, lines 17-19.

With regard to claims 38 and 47, the entire disclosure is related to phosphors and phosphor blends that can be used in conjunction with a UV or blue LED to produce white light devices. See page 15, lines 32-35.

With regard to claims 40-45, these limitations are the same as those of claims 28-33. See page 11, line 30 to page 12, line 5.

With regard to claim 53, applicants direct the Examiner to Figure 9, which shows an emission spectrum of this phosphor with the recited peak.

With regard to claims 54 and 56-59, these ranges are recited on page 13, lines 8-10.

With regard to claim 72, the preferred embodiment of the phosphor is shown on page 13, line 15-16 as  $\text{Ca}_3\text{Sc}_2(\text{Si}_x\text{Ge}_{1-x})_3\text{O}_{12}:\text{Ce}^{3+}$  where x is from 0.67 to 1.0. When  $x = 1.0$ , this phosphor will be that which is claimed in claim 72,  $\text{Ca}_3\text{Sc}_2\text{Si}_3\text{O}_{12}:\text{Ce}^{3+}$ .

Thus, withdrawal of all these objections is requested.

**B. The Claims are not Anticipated by the Cited References**

The claims rejected by the Examiner based on prior art references have been canceled. Withdrawal of these rejections is requested.

**CONCLUSION**

It is respectfully submitted that the subject application is now in better condition for examination.

Respectfully submitted,

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